REMARKS

This amendment is being filed in response to the Official Action mailed in this application on September 8, 2003. When this amendment is entered, claim 17 will be cancelled and only claims 1 and 13-16 will be pending in this application. Entry of this amendment and reconsideration of this application are respectfully requested.

Claims 1 and 13-17 were rejected under 35 USC §112, 1st paragraph, allegedly as lacking enablement. This rejection is traversed.

The rejection essentially asserts that "[t]he claims read on gene therapy *in vivo*", and since gene therapy was unpredictable at the time of the invention, the claims lack enablement. However, the claims are not directed to gene therapy *per se*. Rather, the claims are directed to transforming a cell. There is nothing in the rejection to say that *transforming a cell* is unpredictable. In fact, the previous rejection asserted that "progress has been made" in many respects. Accordingly, it is submitted that this rejection is not directed to the claims as written and should therefore be withdrawn.

Moreover, although the issue presented in the rejection is whether the applicant has enabled the invention, the basis of the rejection is an assertion that the application fails to demonstrate that the invention works. Thus, the 35 U.S.C. § 112 rejection is simply a rejection under 35 U.S.C. § 101 in the guise of a rejection under 35 U.S.C. § 112.

The Office asserts that the rejection is for lack of enablement under U.S.C. § 112, first paragraph, and is distinct from a rejection under U.S.C. § 101 asserting inoperability. Specifically, the Office asserts that

> the specification, while being enabling for a method of transforming a cell *in vivo* as taught by Donovan et al., 1998 (U.S. Patent No. 5,833,651), does not reasonably provide enablement for a method of transforming a cell *in vivo* by applying a nucleic acid and a pliable, adhesive fibrin gel to said cell with apparatus other than stent or balloon catheter. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims and is repeated for the reasons set forth in the preceding Official Action mailed 3-12-03 (Paper No. 22). Applicant's arguments filed 6-16-03 have been fully considered but they are not persuasive.

Next, it is asserted in the rejection that "the specification fails to provide adequate guidance and evidence for how to administer a pliable, adhesive fibrin gel either mixed with a nucleic acid or separate from a nucleic acid to a subject **such that target cells in said subject ar transformed with said nucleic acid**."

Further, it is asserted that "[T]he specification also fails to provide adequate guidance what apparatus is used to deliver the pliable, adhesive fibrin gel to target cells in a subject for transformation of said cells where the pliable, adhesive fibrin gel will polymerize quickly. **There is no evidence of record that shows transformation of target cells** in a subject with any nucleic acid via administering the pliable, adhesive fibrin gel and the nucleic acid in a mixture or administering said fibrin gel and nucleic acid in a sequential order."

That the nature of the rejection focuses on the text presented above in added **bold** is clear from the text presented above in added underline. That is, the text in added underline acknowledges that the description of how to make the transforming composition is indeed in the application, that transforming nucleic acids are well-know, and indeed that transforming a cell *in vivo* is enabled when done with certain equipment. Implicit in this acknowledgement is that those of ordinary skill who have undertaken many transformations know how to measure for such transformation and have been enabled if they use a stent or balloon catheter. Yet, what is emphasized in **bold** is the Office's assertion regarding the specification's teachings relative to how the nucleic acid entrapped in fibrin gel can be taken up by cells.

Because the subject rejection is for want of utility, it is incumbent on the Office to present sufficient reason to doubt applicant's assertion of utility. One way to seek to conform to the legal requirements for such a rejection would be to follow the Office's own internal guidelines--the Utility Examination Guidelines. While the burden on the Office to justify an assertion of want of a credible utility would appear more relaxed in the guidelines than in the precedent of the Court of Appeals for the Federal Circuit, even this low hurdle was not met in the subject rejection.

The Office's Utility Examination Guidelines require:

> Any rejection based on lack of utility should include a detailed explanation why the claimed invention has no specific and substantial credible utility. Whenever possible, the Examiner should provide documentary evidence (e.g., scientific or technical journals, excerpts from treatises or books, or U.S. or foreign patents) to support the factual basis for the prima facie showing of no specific and substantial credible utility. If documentary evidence is not available, the Examiner should specifically explain the scientific basis for his or her factual conclusions.

(Guidelines at §B.3.). Applicant submits that the rejection does not specifically explain a scientific basis to doubt the applicant's utility. To the contrary, in making the subject rejection, the Office turns the burden, which the Office's own rules specifically places on itself, onto the applicant, requiring proofs, even though the rejection admits that transforming a cell *in vivo* is enabled when done with a stent or balloon catheter. For instance, the Office essentially asks the applicant to explain how the nucleic acid entrapped in fibrin gel can be taken up by cells. Applicant respectfully notes that even the most skilled in the art can offer no more than informed speculation on the mechanism of transformation. Such is not a requirement of the patent law. That is, the patent law does not require an applicant to understand the theory of operation for his or her invention. Moreover, there is no requirement that applicant show every possible way there is to perform his invention.

Apparently implicit in the Office's assertion is a belief that the nature of a fibrin gel would somehow disable transformation. That *belief* is not shared by the applicant. Moreover, the Office's guidelines require that the Office explain any reasoning behind this belief so that applicant has a real opportunity to respond.

Further, according to the Guidelines, the Office's showing must contain the following:

(1) An explanation that clearly sets forth the reasoning used in concluding that the asserted specific and substantial utility is not credible;

(2) Support for factual findings relied upon in reaching this conclusion; and

(3) An evaluation of all relevant evidence of record, including utilities taught in the closest prior art.

(Guidelines at §B.3.(b).). In other words, the Office must tell the applicant, in factually supported detail, why it believes that entrapping nucleic acid in fibrin will interfere with the transformation process. The Office's showing must, moreover, establish not that the Examiner believes that fibrin polymer interferes, but that "it is more likely than not that a person skilled in the art would not consider credible any specific and substantial utility asserted by the applicant for the claimed invention." Guidelines at §B.3.(b).

Accordingly, the subject rejection does not meet even the minimal requirements of the Utility Guidelines.

The Court of Appeals for the federal Circuit has reiterated that:

> [A] specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must* be taken as in compliance with the enabling requirement of Section 112 unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

Brana, at 1565, 34 USPQ2d at 1441 (quoting Marzocchi, at 223, 169 USQ at 369). It is:

> *Only* after the PTO provides *evidence* showing that one of ordinary skill in the art would reasonably *doubt* the asserted utility does the burden shift to the applicant to provide rebuttal evidence sufficient to convince such a person of the invention's asserted utility.

Brana, at 1565, 34 USPQ2d at 1441.

Thus, the Office must accept the applicant's assertion of the usefulness of the invention *unless* it provides evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility, not mere speculation that an invention might not work.

For all these reasons, applicant requests that this rejection be withdrawn.

Finally, claim 17 was rejected under 35 USC §102(e) as anticipated by, or, in the alternative, under 35 USC §103 as obvious over U.S. Patent No. 5,833,651 ('Donovan"). Claim 17 has been canceled without prejudice. Accordingly, applicant submits that this rejection should be dropped.

In view of the foregoing, entry of the amendment, reconsideration of this application and allowance of the application with claims 1 and 13-16 are respectfully solicited.

Respectfully submitted,

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